OPTICS COMMUNICATIONS

Volume 169, numbers 1–6, 1 October 1999

Abstracted/Indexed in: Chemical Abstracts/Current Contents: Engineering, Computing and Technology/Current Contents: Physical, Chemical & Earth Sciences/EI Compendex Plus/Engineering Index/INSPEC

Contents

Instructions to authors v

Propagation and scattering

M. Martínez-Corral, G. Saavedra, P. Andrés and F. Gori, Analytical formulation of the axial behavior of apodized general Bessel beams 1

H.-C. Kim and Y.H. Lee, Hermite–Gaussian and Laguerre–Gaussian beams beyond the paraxial approximation 9

Q. Li, L. Gong, Y. Gao and Y. Chen, Experimental observation of the nonlinearity of the Pancharatnam phase with a Michelson interferometer 17

Optical information, image formation and analysis, optical computing

N.A. Russo, J.A. Pomarico, E.E. Sicre, D. Patrignani and L. De Pasquale, Extended range optical velocimetry through spatial correlation of image speckle sub-patterns 23

R. Castañeda and J. García-Sucerquia, Besselian Schell–Model beams in optical microscopy 29

S. Lai, B. Kemper and G. von Bally, Off-axis reconstruction of in-line holograms for twin-image elimination 37

Z. Chen and M.A. Karim, Optical subband coding system 45

G. Schirripa Spagnolo, D. Paoletti and D. Ambrosini, Buoyancy-induced flows monitoring by digital speckle photography and Fourier transform analysis 51

E. Acosta, S. Ríos, M. Soto and V.V. Voitsekhovich, Role of boundary measurements in curvature sensing 59

Optical communications

K.-P. Ho, Spectral density of cross-phase modulation induced phase noise 63

L. Chen, J. Cameron and X. Bao, Statistics of polarization mode dispersion in presence of the polarization dependent loss in single mode fibers 69

S.-K. Liaw, K.-P. Ho, C. Lin and S. Chi, Experimental investigation of wavelength-tunable WADM and OXC devices using strain-tunable fiber Bragg gratings 75

S.-L. Tzeng, H. Chang and Y.-K. Chen, Limiting-amplified multiwavelength dispersion compensator incorporating chirped fiber gratings and optical amplifier for DWDM systems 81

E.A. Kuzin, G. Beltran-Perez, M.A. Basurto-Pensado, R. Rojas-Laguna, J.A. Andrade-Lucio, M. Torres-Cisneros and E. Alvarado-Mendez, Stimulated Raman scattering in a fiber with bending loss 87

Condensed matter

A.V. Zayats, I.I. Smolyaninov and C.C. Davis, Observation of localized plasmonic excitations in thin metal films with near-field second-harmonic microscopy 93

(Continued inside)

0030-4018(19991001)169:1-6;1-4

OPTICS COMMUNICATIONS

Volume 169, numbers 1–6, 1 October 1999

Abstracted/Indexed in: Chemical Abstracts/Current Contents: Engineering, Computing and Technology/Current Contents: Physical, Chemical & Earth Sciences/EI Compendex Plus/Engineering Index/INSPEC

Contents

Instructions to authors v

Propagation and scattering

M. Martínez-Corral, G. Saavedra, P. Andrés and F. Gori, Analytical formulation of the axial behavior of apodized general Bessel beams 1

H.-C. Kim and Y.H. Lee, Hermite–Gaussian and Laguerre–Gaussian beams beyond the paraxial approximation 9

Q. Li, L. Gong, Y. Gao and Y. Chen, Experimental observation of the nonlinearity of the Pancharatnam phase with a Michelson interferometer 17

Optical information, image formation and analysis, optical computing

N.A. Russo, J.A. Pomarico, E.E. Sicre, D. Patrignani and L. De Pasquale, Extended range optical velocimetry through spatial correlation of image speckle sub-patterns 23

R. Castañeda and J. García-Sucerquia, Besselian Schell–Model beams in optical microscopy 29

S. Lai, B. Kemper and G. von Bally, Off-axis reconstruction of in-line holograms for twin-image elimination 37

Z. Chen and M.A. Karim, Optical subband coding system 45

G. Schirripa Spagnolo, D. Paoletti and D. Ambrosini, Buoyancy-induced flows monitoring by digital speckle photography and Fourier transform analysis 51

E. Acosta, S. Ríos, M. Soto and V.V. Voitsekhovich, Role of boundary measurements in curvature sensing 59

Optical communications

K.-P. Ho, Spectral density of cross-phase modulation induced phase noise 63

L. Chen, J. Cameron and X. Bao, Statistics of polarization mode dispersion in presence of the polarization dependent loss in single mode fibers 69

S.-K. Liaw, K.-P. Ho, C. Lin and S. Chi, Experimental investigation of wavelength-tunable WADM and OXC devices using strain-tunable fiber Bragg gratings 75

S.-L. Tzeng, H. Chang and Y.-K. Chen, Limiting-amplified multiwavelength dispersion compensator incorporating chirped fiber gratings and optical amplifier for DWDM systems 81

E.A. Kuzin, G. Beltran-Perez, M.A. Basurto-Pensado, R. Rojas-Laguna, J.A. Andrade-Lucio, M. Torres-Cisneros and E. Alvarado-Mendez, Stimulated Raman scattering in a fiber with bending loss 87

Condensed matter

A.V. Zayats, I.I. Smolyaninov and C.C. Davis, Observation of localized plasmonic excitations in thin metal films with near-field second-harmonic microscopy 93

(Continued inside)

0030-4018(19991001)169:1-6;1-4

OPTICS COMMUNICATIONS

Volume 169, numbers 1–6, 1 October 1999

(Continued from page 4 of cover)

Quantum optics

V.P. Kozich, A.I. Vodtchits, D.A. Ivanov and V.A. Orlovich, Changing the statistical properties of noisy laser radiation in a saturable absorber 97

M. Dušek, O. Haderka and M. Hendrych, Generalized beam-splitting attack in quantum cryptography with dim coherent states 103

Laser physics and laser sources

D. Shen, C. Li, J. Song, T. Kobayashi and K. Ueda, Diode-pumped Nd:S-VAP lasers passively Q-switched with Cr^{4+}:YAG saturable absorber 109

R. Oron, Y. Danziger, N. Davidson, A.A. Friesem and E. Hasman, Laser mode discrimination with intra-cavity spiral phase elements 115

R.E. Burge, X.-C. Yuan, G.E. Slark, M.T. Browne, P. Charalambous, C.L.S. Lewis, G.F. Cairns, A.G. MacPhee and D. Neely, Optical source model for the 23.2–23.6 nm radiation from the multielement germanium soft X-ray laser 123

R. Hofer, M. Hofer and G.A. Reider, High energy, sub-picosecond pulses from a Nd-doped double-clad fiber laser 135

M. Armstrong, X. Zhu, S. Gracewski and R.J.D. Miller, Development of a 25 W TEM_{00} diode-pumped Nd:YLF laser 141

M.A. Larotonda, A.M. Yacomotti and O.E. Martínez, Antiphase Q-switch dynamics in a multimode solid-state laser with saturable absorber 149

H.L. An, X.Z. Lin, E.Y.B. Pun and H.D. Liu, Multi-wavelength operation of an erbium-doped fiber ring laser using a dual-pass Mach–Zehnder comb filter 159

S.K. Hwang and J.M. Liu, Attractors and basins of the locking–unlocking bistability in a semiconductor laser subject to strong optical injection 167

Nonlinear optics

V.A. Malyshev, H. Glaeske and K.-H. Feller, Bistable behavior of transmittivity of an ultrathin film comprised of linear molecular aggregates 177

F. Rotermund, V. Petrov and F. Noack, Femtosecond noncollinear parametric amplification in the mid-infrared 183

R. Gadonas, V. Jarutis, A. Marcinkevičius, V. Smilgevičius, A. Stabinis and V. Vaičaitis, Transverse phase-matching in stimulated Raman scattering by a Bessel beam 189

E.J. Fonseca, S.B. Cavalcanti and J. Miguel Hickmann, Space-time break-up in the self-focusing of ultrashort pulses 199

FULL LENGTH ARTICLES

Optical information, image formation and analysis, optical computing

F. Lei, H. Huang, N. Yoshikawa, M. Iton and T. Yatagai, Performance of binary joint transform correlator using linear combination threshold function 207

(Continued on preceding page)

OPTICS COMMUNICATIONS

Volume 169, numbers 1–6, 1 October 1999

(Continued from page 4 of cover)

Quantum optics

V.P. Kozich, A.I. Vodtchits, D.A. Ivanov and V.A. Orlovich, Changing the statistical properties of noisy laser radiation in a saturable absorber 97

M. Dušek, O. Haderka and M. Hendrych, Generalized beam-splitting attack in quantum cryptography with dim coherent states 103

Laser physics and laser sources

D. Shen, C. Li, J. Song, T. Kobayashi and K. Ueda, Diode-pumped Nd:S-VAP lasers passively Q-switched with Cr^{4+}:YAG saturable absorber 109

R. Oron, Y. Danziger, N. Davidson, A.A. Friesem and E. Hasman, Laser mode discrimination with intra-cavity spiral phase elements 115

R.E. Burge, X.-C. Yuan, G.E. Slark, M.T. Browne, P. Charalambous, C.L.S. Lewis, G.F. Cairns, A.G. MacPhee and D. Neely, Optical source model for the 23.2–23.6 nm radiation from the multielement germanium soft X-ray laser 123

R. Hofer, M. Hofer and G.A. Reider, High energy, sub-picosecond pulses from a Nd-doped double-clad fiber laser 135

M. Armstrong, X. Zhu, S. Gracewski and R.J.D. Miller, Development of a 25 W TEM_{00} diode-pumped Nd:YLF laser 141

M.A. Larotonda, A.M. Yacomotti and O.E. Martínez, Antiphase Q-switch dynamics in a multimode solid-state laser with saturable absorber 149

H.L. An, X.Z. Lin, E.Y.B. Pun and H.D. Liu, Multi-wavelength operation of an erbium-doped fiber ring laser using a dual-pass Mach–Zehnder comb filter 159

S.K. Hwang and J.M. Liu, Attractors and basins of the locking–unlocking bistability in a semiconductor laser subject to strong optical injection 167

Nonlinear optics

V.A. Malyshev, H. Glaeske and K.-H. Feller, Bistable behavior of transmittivity of an ultrathin film comprised of linear molecular aggregates 177

F. Rotermund, V. Petrov and F. Noack, Femtosecond noncollinear parametric amplification in the mid-infrared 183

R. Gadonas, V. Jarutis, A. Marcinkevičius, V. Smilgevičius, A. Stabinis and V. Vaičaitis, Transverse phase-matching in stimulated Raman scattering by a Bessel beam 189

E.J. Fonseca, S.B. Cavalcanti and J. Miguel Hickmann, Space-time break-up in the self-focusing of ultrashort pulses 199

FULL LENGTH ARTICLES

Optical information, image formation and analysis, optical computing

F. Lei, H. Huang, N. Yoshikawa, M. Iton and T. Yatagai, Performance of binary joint transform correlator using linear combination threshold function 207

(Continued on preceding page)